

Work Order ID 75964

November-02-11 10:42:23 AM

\*75964\*

U/R

Page 1

Item ID: D3391-025 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Aft Tube Assembly  
 Start Date: 02/11/2011 Start Qty: 1.00 \*1\* Cust Item ID:  
 Required Date: 16/11/2011 Req'd Qty: 1.00 \*1\* Customer:

Reference:

Approvals: Process Plan: M.C.-J Date: 11/11/07 Tooling: Date: Run Start \*NR1\*  
 QC: Date: SPC (Y/N): Date: Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3391	Rev H U/R/ DEO 11/11/07

100	MORI SEIKI CNC LATHE LARGE	0.00							
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\*100\*

Mori Seiki

Mori Seiki CNC Lathe Large

Memo

Turn as per Folio FA599 Rev: 8 Dwe 193391 Rev

\*\*\*scribe batch # on fwd end at 90 degree\*\*\*

110	QC2- Inspect parts off machine FAI/FAIB	0.00							
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\*110\*

QC

Quality Control

Memo

111	QC8- Inspect parts - second check	0.00							
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\*111\*

QC

Quality Control

Memo

SCRAP

SCRAP

P10 7

W/O: 75964		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod-Mgr	Approval QC Inspector

Part No: D3391-625 PAR #:                      Fault Category: Machining Landing Gear / Motor NCR: Yes No DQA: OK Date: 11/11/15  
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: OK Date: 11/11/16

NCR: 11-9880		WORK ORDER NON-CONFORMANCE (NCR) 1136931						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/11/10	110	Operator for out to tighten steady last before turning out side taper on tube tube has deep chatter marks	11/11/11 PS1042	Scrap 9/11/11/14 no further	man. 1 11/11/14	S 11/11/14	11/11/11 PS1042	S 11/11/14
		4nd are unable to Buff out with out thinning wall. chatter marks are located between 27" - 34" from aft End of tube.						S 11/11/14
		R.C. operator error.						S 11/11/14

NOTE: Date & initial all entries

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**\*N900040100\***

Setup Start **\*NS1\***

Stop **\*NS2\***

**Start Date:** 02/11/2011    **Start Qty:** 1.00    **\*1\***

**Required Date:** 16/11/2011      **Req'd Qty:** 1.00      **\* 1 \***

**Reference:**

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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0.00

**\*120\***

## HAAS CNC VERTICAL MACHINING #1

## Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA 599 Rev: \_\_\_\_ & Dwg D3391 Rev: \_\_\_\_  
2-Deburr

0.00

**\*130\***

QC2- Inspect parts off machine FAI/FAIB

QC

## Memo

0.00

## Quality Control

0.00

**\*140\***

QC8- Inspect parts - second check

QC

## Memo

0.00

## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 75964

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Item ID: D3391-025      Accept      **\*N900040100\***      Setup    Start    **\*NS1\***  
 Revision ID:      Stop    **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 02/11/2011    Start Qty: 1.00      **\*1\***      Cust Item ID:  
 Required Date: 16/11/2011    Req'd Qty: 1.00      **\*1\***      Customer:  
 Reference:

Approvals:    Process Plan:    Date:    Tooling:    Date:    Run    Start    **\*NR1\***  
                  QC:    Date:    SPC (Y/N):    Date:    Stop    **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Skidtubes	0.00							
<b>*150*</b>									
Skidtubes	<b>Memo</b>	0.00							
Skidtubes	1-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803								
160		0.00							
<b>*160*</b>	BENDING MACHINE - SKIDTUBES								
CNC Bend 1	<b>Memo</b>	0.00							
CNC Delta 100 Bender	Form as per Dwg D3391 Using Bend Prog 3391025								
170	QC5- Inspect part completeness to step on W/O	0.00							
<b>*170*</b>									
QC	<b>Memo</b>	0.00							
Quality Control									

*Scanned*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**\*75.964\***

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**\*N900040100\***

Setup Start \*NS1\*

Stop **\*NS2\***

**Customer:**

Run Start \*NR1\*

Stop \*NR2\*

**\*NR2\***

180	0.00
-----	------

0.00

Skidtubes	Memo	0.00				
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Skidtubes 1-Open Aft cap pilot hole to .208" as per Dwg D3391

## Memo

0.00

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217 Wearplate Jig .

\*\*\*\*\*Do Not Open To Finished Size\*\*\*\*\*

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe , wearplate to 0.297"and float bag holes to 0.328" as per Dwg D3391.

7-Deburr

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 02/11/2011    **Start Qty:** 1.00    **\*1\***

**Cust Item ID:**

**Required Date:** 16/11/2011      **Req'd Qty:** 1.00      **\* 1 \***

**Customer:**

**Reference:**

Approvals:      Process Plan: \_\_\_\_\_      Date: \_\_\_\_\_      Tooling: \_\_\_\_\_      Date: \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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190	QC5- Inspect part completeness to step on W/O	0.00
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**\*190\***

QC	Memo	0.00
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## Quality Control

200	Chemical Conversion Coat per QSI005 4.1	0.00
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**\*200\***

HandFinish	Memo	0.00
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## Hand Finishing

210	QC3- Inspect Part Finish	0.00
-----	--------------------------	------

**\*210\***

QC	Memo	0.00
----	------	------

## Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**NOTE:** Date & initial all entries

**Work Order ID 75964****\*75964\***

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Item ID: D3391-025

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 02/11/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 16/11/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

240

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

**\*240\***

Powdercoat

**Memo**

0.00

Powder Coating

START TIME: \_\_\_\_\_

OVEN TEMPERATURE: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

250

QC3- Inspect Part Finish

0.00

**\*250\***

QC

**Memo**

0.00

Quality Control

260

HandFinishing

0.00

**\*260\***

HandFinish

**Memo**

0.00

Hand Finishing

1-Install inserts as per Dwg D3391

2-Install Aft Cap as per Dwg D3391

A/ R Sikaflex-241/-291 \_\_\_\_\_

Sikaflex expiry date: \_\_\_\_\_

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**Work Order ID 75964****\*75964\***

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Item ID: D3391-025  
Revision ID:  
Item Name: Aft Tube Assembly  
Start Date: 02/11/2011 Start Qty: 1.00  
Required Date: 16/11/2011 Req'd Qty: 1.00  
Reference:

Accept

**\*N900040100\***

Setup Start **\*NS1\***  
Stop **\*NS2\***

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***  
Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	QC5- Inspect part completeness to step on W/O	0.00							
<b>*270*</b>									
QC	Memo	0.00							
Quality Control									
280	Identify as per dwg & Stock Location: _____	0.00							
<b>*280*</b>									
Packaging	Memo	0.00							
Packaging									
290	QC21- Final Inspection - Work Order Release	0.00							
<b>*290*</b>									
QC	Memo	0.00							
Quality Control									

11-11-14  
0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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Work Order ID: 75964

**\*75964\***

Parent Item: D3391-025

**\*D3391-025\***

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev B 06-02-07 ECN773 dwg rev. D EC  
 IPP Rev:C 06-03-28 Update Manuf. Instructions JLM  
 IPP rev D 07.03.20 revF dwg EC  
 IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD  
 IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC  
 IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6014-090		Manufactured	No			100	Each	23.0000	1	1			

**\*D6014-090\***

ALUMINUM EXTRUSION

**\*\***

Location

Loc Qty

Loc Code

LG

23

66179

23

D3670-4-200

Manufactured No

230

Each

128.0000

4

4

aman d 11/11/09

**\*D3670-4-200\***

SPACER

**\*\***

Location

Loc Qty

Loc Code

LG

36

71850

36

LG001

92

72851

92

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Work Order ID: 75964

**\*75964\***

Parent Item: D3391-025

**\*D3391-025\***

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured

No

270

Each

73.0000

1

1

**\*D2646\***

Aft Cap

**\*\***

Location

Loc Qty

Loc Code

FP002

56

73294

56

FP004

5

68280

5

FP006

5

62678

5

FP-4

3

70945

1

71070

2

fp5

4

71038

4

D3537-1

Manufactured

No

270

Each

108.0000

1

1

**\*D3537-1\***

Wearpad

**\*\***

Location

Loc Qty

Loc Code

FP002

101

74436

70

74597

31

FP017

7

69817

5

70686

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**\*75964\***

Parent Item: D3391-025

**\*D3391-025\***

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-7      Manufactured      No

270

Each

9.0000

1

1

**\*D3537-7\***

Wearpad

**\*\***

Location

Loc Qty

Loc Code

FP

4

71689

4

FP017

5

71689

5

D3553-1      Manufactured      No

270

Each

37.0000

1

1

**\*D3553-1\***

Gasket

**\*\***

Location

Loc Qty

Loc Code

FP013

37

56568

2

73155

35

D3553-3      Manufactured      No

270

Each

22.0000

1

1

**\*D3553-3\***

Gasket

**\*\***

Location

Loc Qty

Loc Code

FP

20

31631

20

FP013

2

53480

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Parent Item: D3391-025

**\*D3391-025\***

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

270 Each

696.0000 2 2

**\*D3672-1\***

**\*\***

Phenolic Washer

Location

Loc Qty

Loc Code

FP-A

432

52505

0

66821

432

ST074

264

72229

264

ALS4-1032-130 Purchased No

260 Each

2,279.000 14 14

**\*AI S4-1032-130\***

**\*\***

Insert

Location

Loc Qty

Loc Code

ST280

2000

119084

2000

ST281

279

117717

2

118237

12

118312

2

118386

263

ALS4-1032-225 Purchased No

270 Each

2,422.000 12 12

**\*AI S4-1032-225\***

**\*\***

Insert

Location

Loc Qty

Loc Code

ST281

2422

108696

502

110768

62

118386

858

118966

1000

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Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**\*75964\***

Parent Item: D3391-025

**\*D3391-025\***

Parent Item Name: Aft Tube Assembly

Start Date: 02/11/2011

Required Date: 16/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 270 Each 2,385.000 6 6

**\*AN3C4A\***

BOLT

**\*\***

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST350	2385	
117313	2	
117688	5	
117872	22	
118112	16	
118451	2	
118706	364	
118838	974	
119328	1000	

AN3C5A Purchased No 270 Each 1,131.000 4 4

**\*AN3C5A\***

Bolt

**\*\***

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP-A	7	
115835	7	
ST350	1124	
116419	28	
117343	17	
117764	166	
117872	2	
118451	411	
119127	500	

AN960C10L NAS1149C0332 Purchased No 270 Each 0.0000 10 10

R

**\*AN960C10I \***

washer

**\*\***

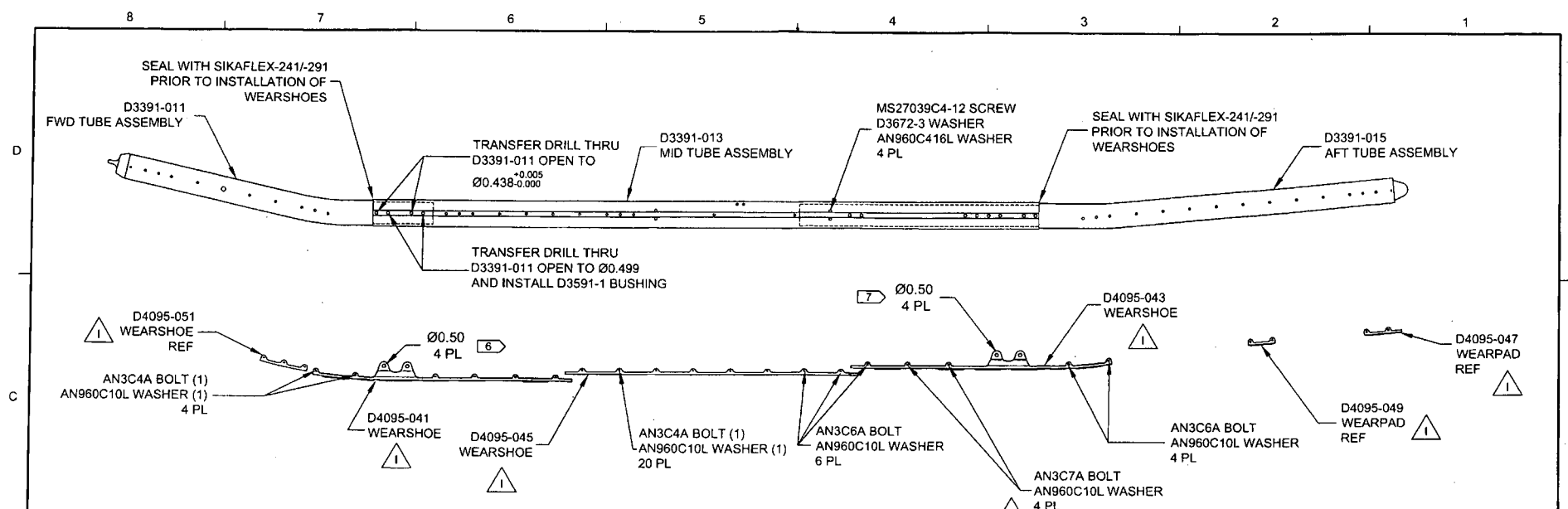
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
-041		
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

SHOP COPY  
 REF. TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO ADDENDUM  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. 75964 M.C.U.  
 11/11/07

**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER. TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) UNITS: INCHES UNLESS OTHERWISE NOTED
- 4) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C-BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 5) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 6) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

**RELEASED**  
 2011-11-04  
 ECN#11-662

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. I
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

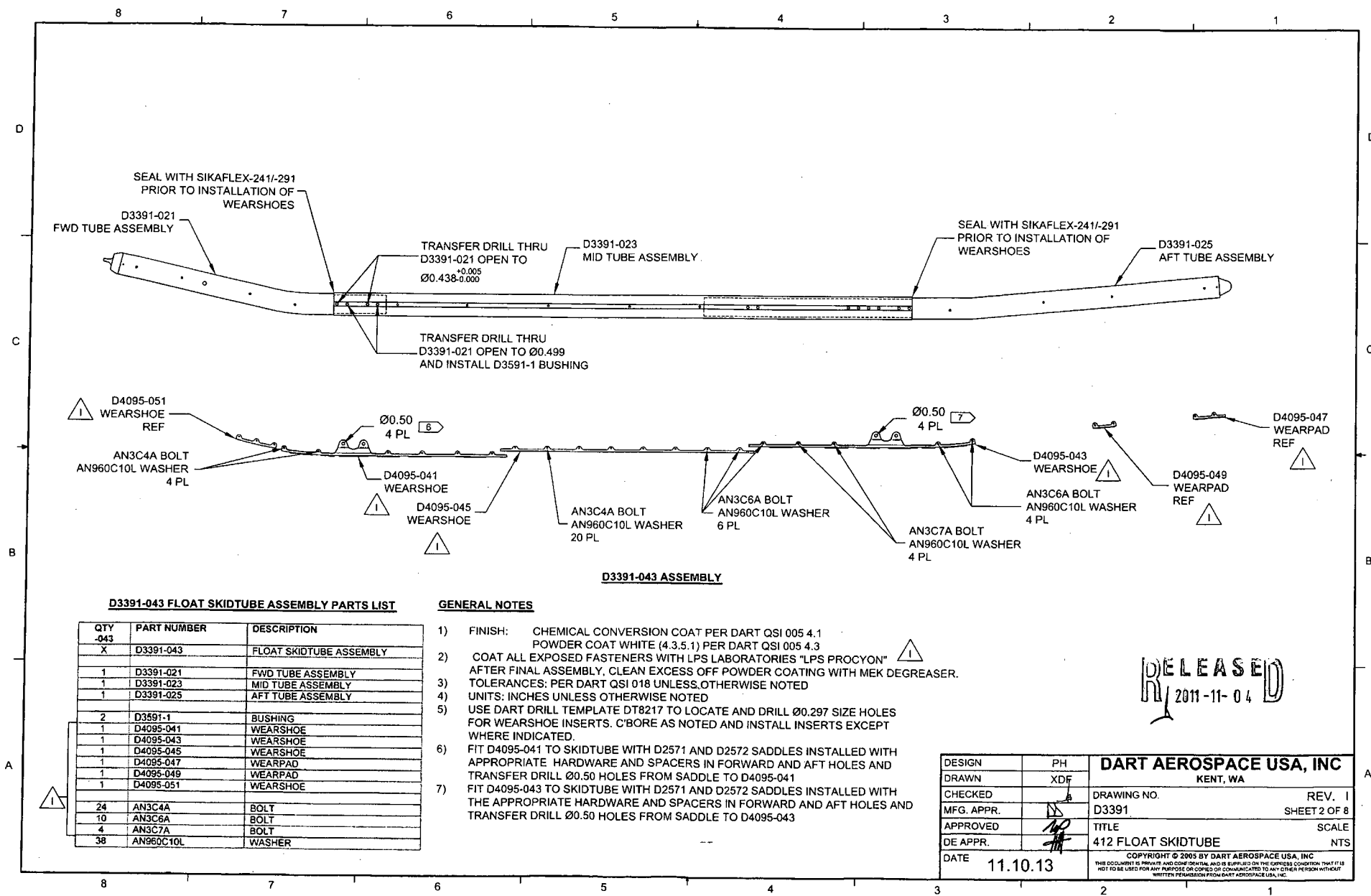
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

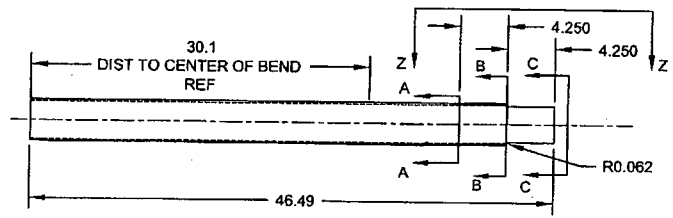
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

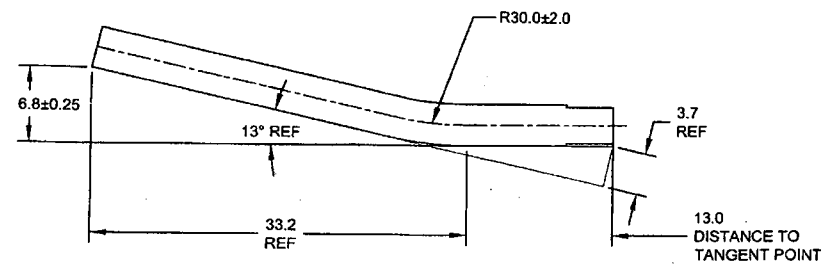
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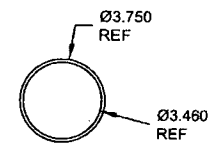
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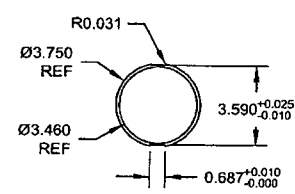
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



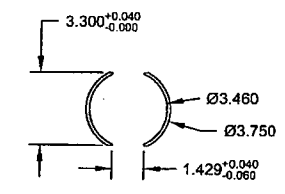
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



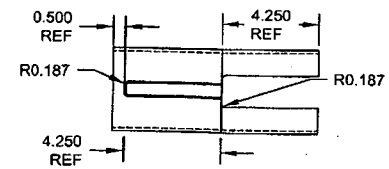
**SECTION A-A**  
SCALE 2X



**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X



**VIEW Z-Z**  
SCALE 2X

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2011-11-04

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
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CHECKED		DRAWING NO. D3391	REV. 1 SHEET 3 OF 8
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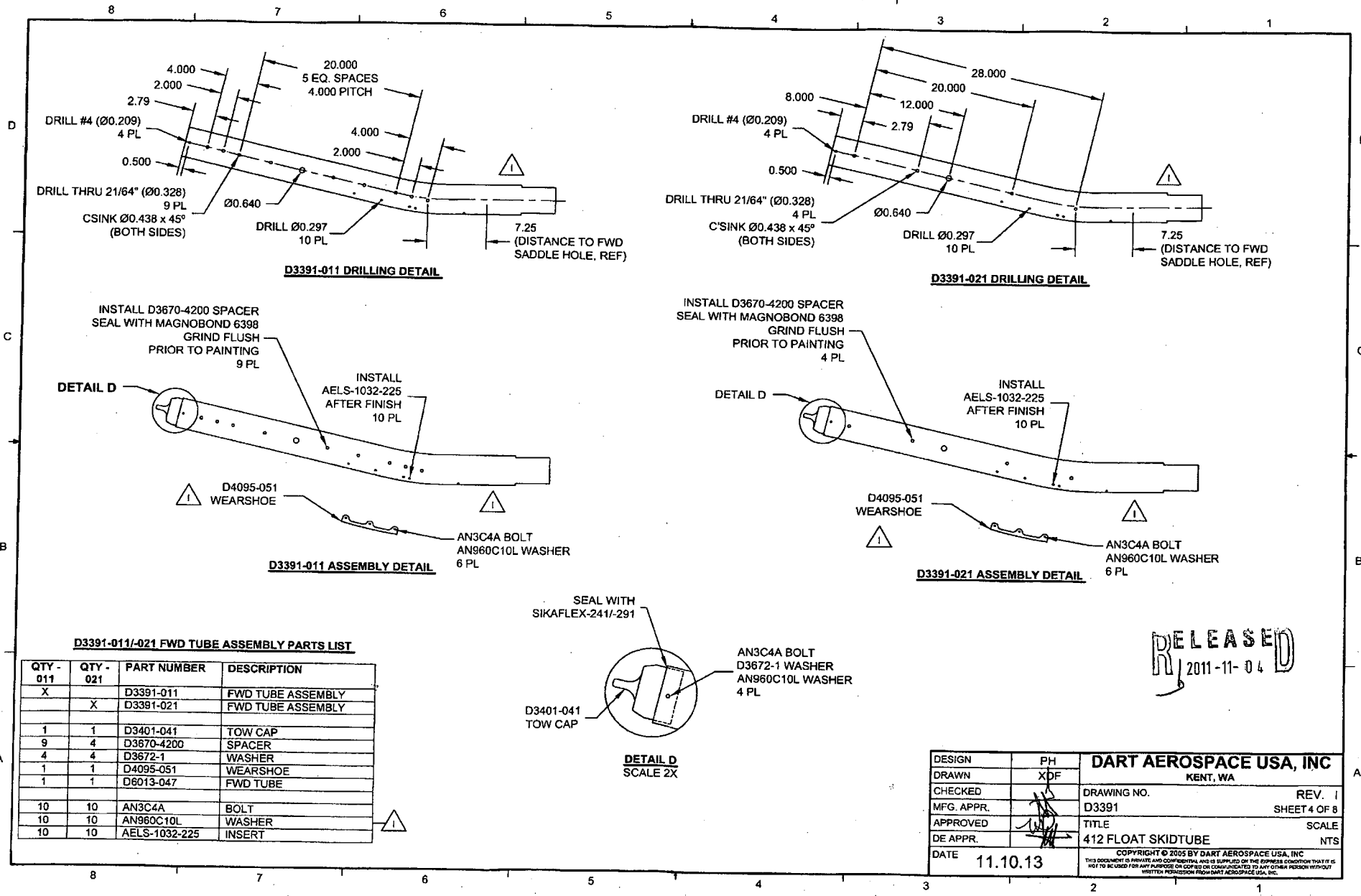
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

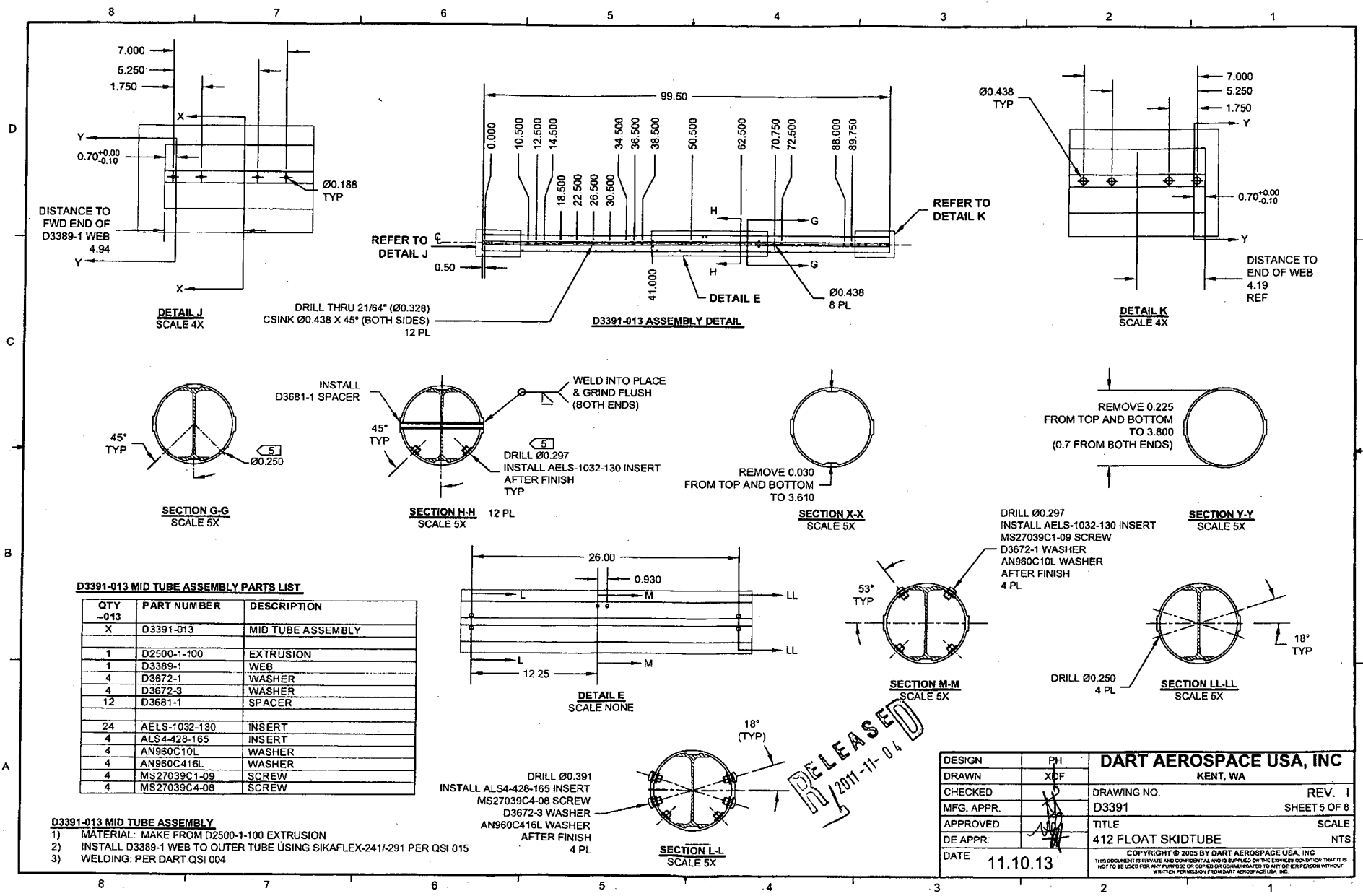
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MFG. APPR.		D3391	SHEET 5 OF 8
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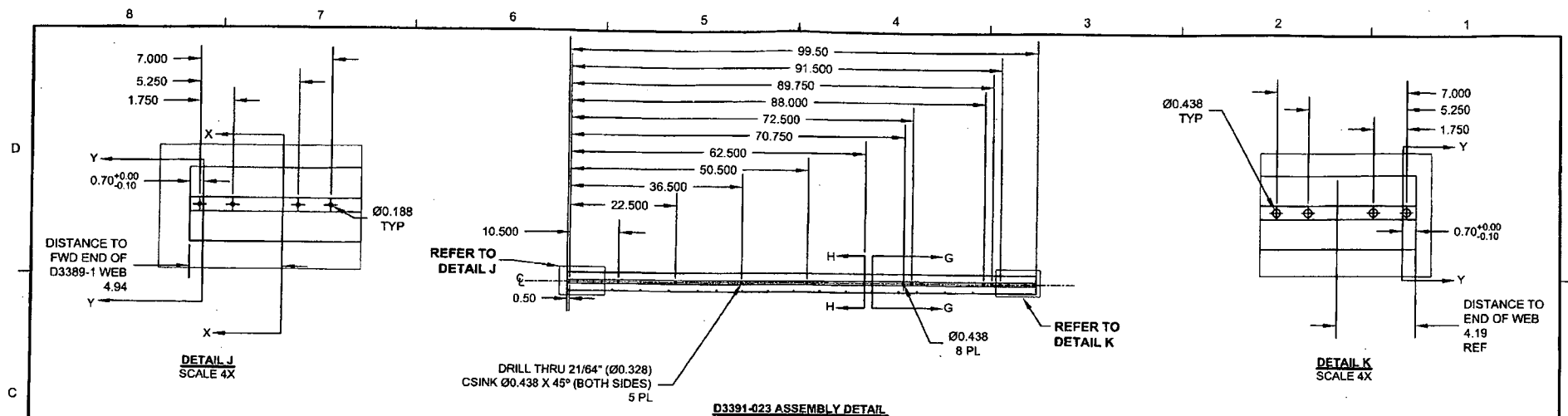
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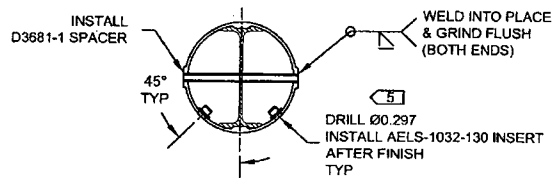
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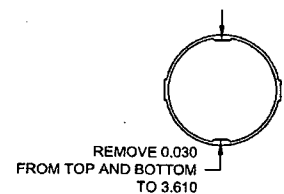
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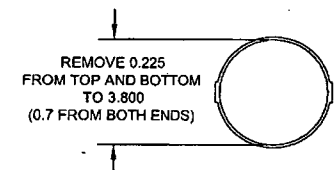
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

- D3391-023 MID TUBE ASSEMBLY**
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
  - 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
  - 3) WELDING: PER DART QSI 004

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2011-11-04

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
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MFG. APPR.		D3391	SHEET 6 OF 8
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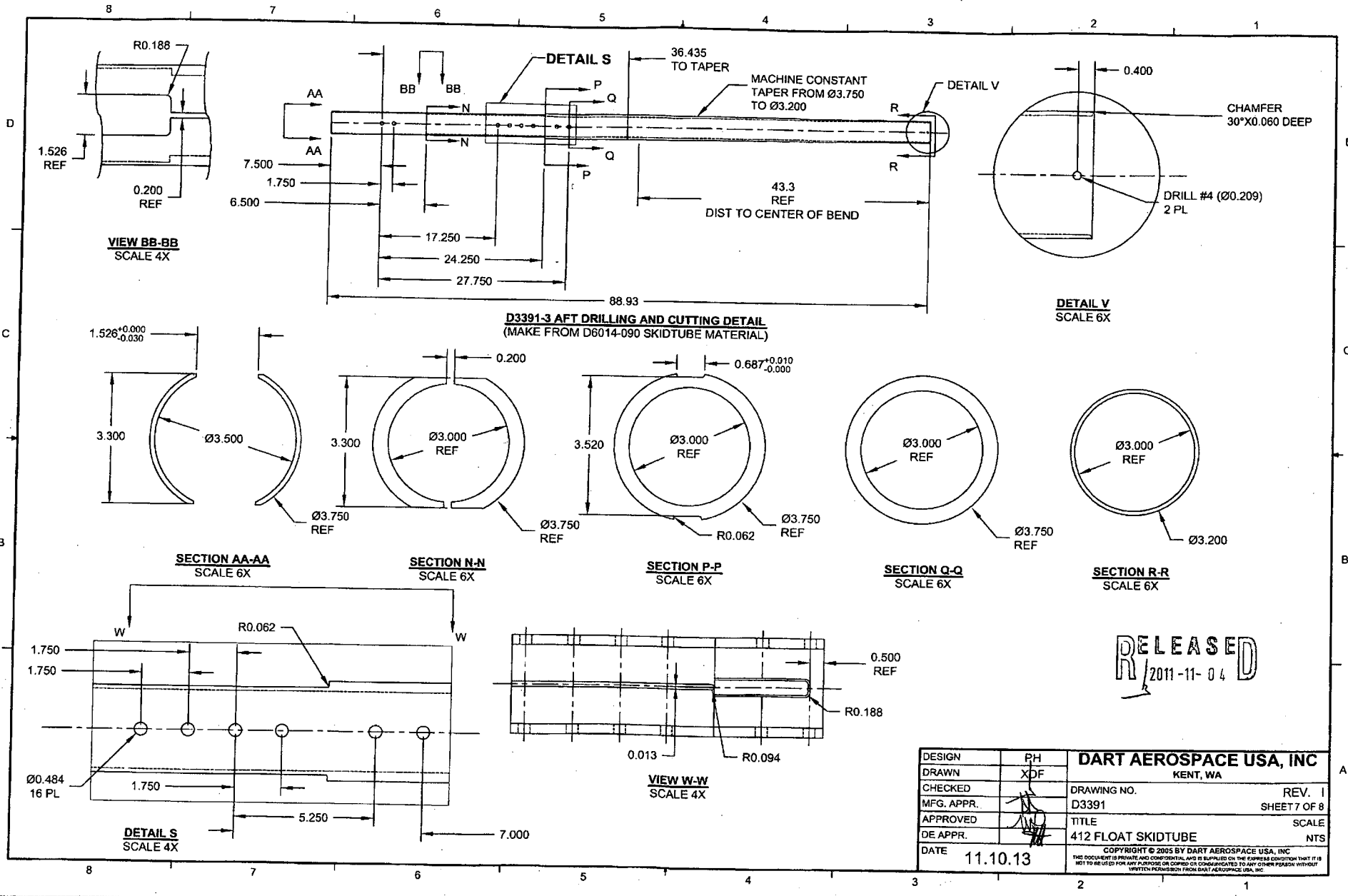
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**NOTE:** Date & initial all entries

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DESIGN	RH	<b>DART AEROSPACE USA, INC</b>	
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MFG. APPR.		D3391	SHEET 7 OF 8
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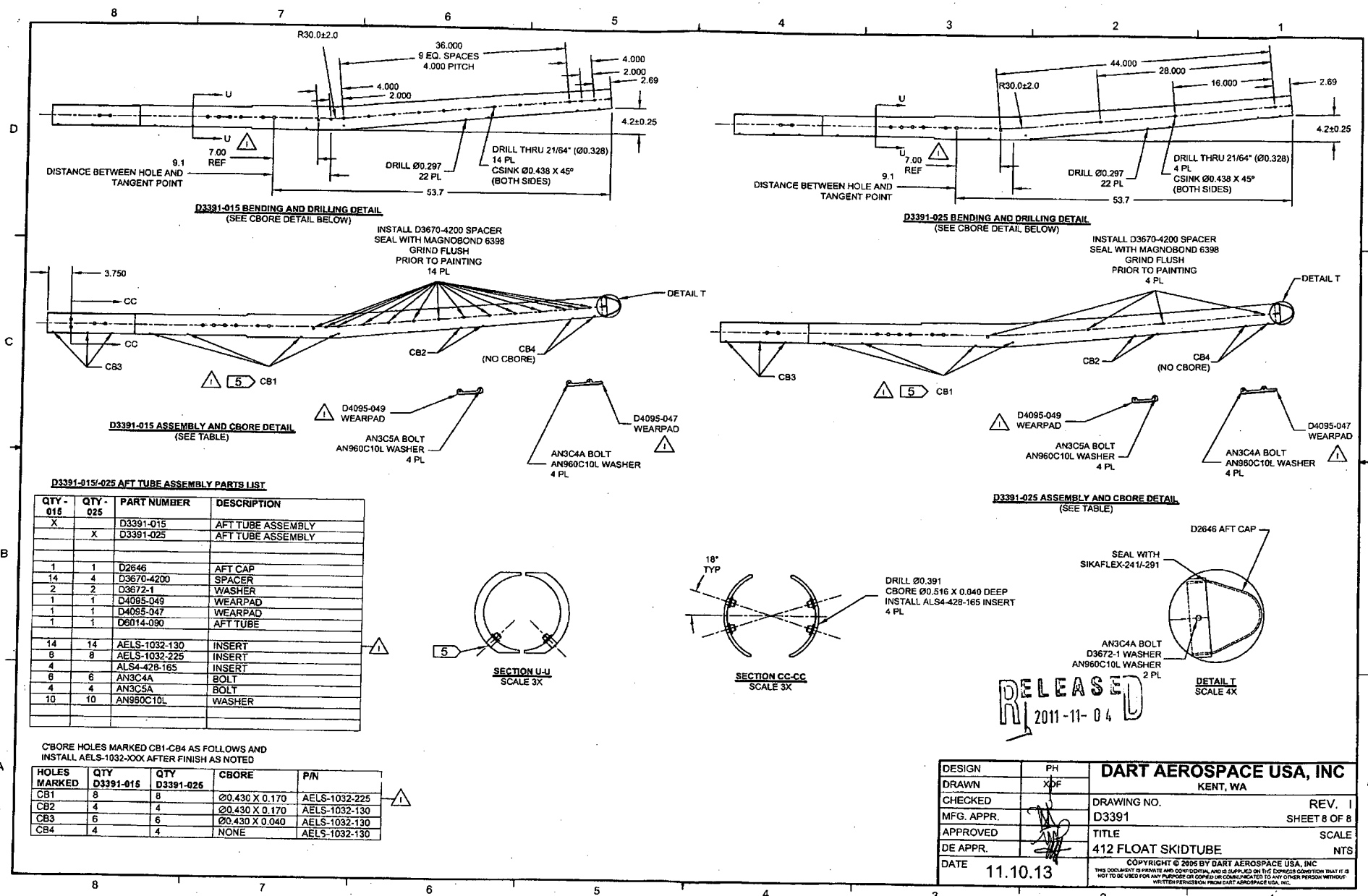
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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DESIGN	PH	<b>DART AEROSPACE USA, INC</b> KENT, WA
DRAWN	XDF	
CHECKED		DRAWING NO. D3391
MFG. APPR.		REV. 1 SHEET 8 OF 8
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DE APPR.		SCALE NTS
DATE	11.10.13	

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 75964
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b> D3391-3
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> H	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<b>Lathe Section</b>						
14.000	+/-0.010	14.000	/		tape	mm. box
3.500	+/-0.010	3.560	/		vern	cw-cg
88.93	+/-0.030	88.925	/		tape	mm. box
Ø3.200	+/-0.010				vern	cw-cg
88.93	+/-0.030	88.925	/		tape	mm. box
Ø3.750	+/-0.010	3.750	/		vern	cw-cg
30° x 160" chamfer	+/-0.010	30° x 160	✓		"	

<b>Measured by:</b> mm. l	<b>Date:</b> 11/11/10
<b>Audited by:</b>	<b>Date:</b>

<b>HAAS Section</b>						
1.526	+0.000/-0.030					
7.500	+/-0.010					
27.750	+/-0.010					
31.750	+/-0.010					
35.250	+/-0.010					
3.300	+/-0.010					
0.200	+/-0.010					
3.520	+/-0.010					
0.687	+0.010/-0.000					
R0.062	+/-0.010					
Ø0.484	+0.005/-0.001					

<b>Measured by:</b>	<b>Date:</b>
<b>Audited by:</b>	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	

